



[From the Proceedings of the Physiological Society, July 20, 1901.]

Does the vagus contain motor fibres for the spleen? By
R. MAGNUS and E. A. SCHÄFER.

(From the Physiological Laboratory, University of Edinburgh.)

Oehl¹ and Roy² obtained contraction of the spleen as a result of stimulation of the peripheral end of the cut vagus. Bulgak³ as well as Schäfer and Moore⁴ failed to get this effect. In view of the fact that Bayliss and Starling⁵ have shown that with the intestine the motor action of vagus stimulation is as a rule only obtained after several successive periods of faradisation it appeared to us desirable to re-investigate the question.

Our experiments have been conducted on the dog, cat, rabbit and monkey, which were in every case anæsthetized with ether: curari and atropin being also administered, the latter in just sufficient dose to paralyze the cardiac inhibitory fibres. Neither a single excitation nor a series of excitations repeated at short intervals some 10 or 12 times of varying and generally increasing strength produced the slightest effect upon the spleen volume, as recorded by the plethysmograph, provided care was taken to prevent any spread of current to the tissues around the nerve. If however these precautions were not taken the centripetal impulses thereby produced frequently provoked a marked reflex effect upon the spleen, usually in the direction of contraction, occasionally of expansion. Our experiments show therefore that the spleen receives neither motor nor inhibitory fibres from the vagus, but is innervated, as Schäfer and Moore concluded, entirely through the sympathetic.

¹ *Gaz. Lomb.* 1869.

³ *Virch. Arch.* LXIX. p. 181.

⁵ *Journ. Phys.* XXIV. p. 129.

² *Journ. Phys.* III. p. 203.

⁴ *Journ. Phys.* XX. p. 1.

